

## Title (en)

Power inductor with reduced DC current saturation

## Title (de)

Leistungsinduktor mit verringerter Gleichstromsättigung

## Title (fr)

Inductance de puissance à saturation réduite de courant continu

## Publication

**EP 1548764 B1 20160824 (EN)**

## Application

**EP 04020571 A 20040830**

## Priority

- US 74441603 A 20031222
- US 87590304 A 20040624

## Abstract (en)

[origin: US2005012586A1] A power inductor includes a first magnetic core material having first and second ends. An inner cavity is arranged in the first magnetic core material that extends from the first end to the second end. First and second notches are arranged in the first magnetic core material that project inwardly towards the inner cavity from one of the first and second ends. Third and fourth notches are arranged in the first magnetic core material that project inwardly towards the inner cavity from the other of the first and second ends. A first conductor passes through the inner cavity and is received by the first and third notches. A second conductor passes through the inner cavity and is received by the second and fourth notches. The first conductor optionally passes through the inner cavity at least two times and is received by the first, second, third, and fourth notches.

## IPC 8 full level

**H01F 3/14** (2006.01); **H01F 27/24** (2006.01); **H01F 3/10** (2006.01); **H01F 17/06** (2006.01); **H01F 27/255** (2006.01); **H01F 27/28** (2006.01); **H01F 27/29** (2006.01); **H01F 27/30** (2006.01); **H01F 37/00** (2006.01); **H01F 27/34** (2006.01); **H01F 38/02** (2006.01)

## CPC (source: EP US)

**H01F 3/10** (2013.01 - EP US); **H01F 3/14** (2013.01 - EP US); **H01F 17/06** (2013.01 - EP US); **H01F 27/2847** (2013.01 - EP US); **H01F 27/292** (2013.01 - EP US); **H01F 37/00** (2013.01 - EP US); **H01F 41/04** (2013.01 - EP US); **H01F 41/10** (2013.01 - EP US); **H01F 27/323** (2013.01 - EP US); **H01F 27/34** (2013.01 - EP US); **H01F 38/023** (2013.01 - EP US); **Y10T 29/4902** (2015.01 - EP US); **Y10T 29/49069** (2015.01 - EP US); **Y10T 29/49071** (2015.01 - EP US); **Y10T 29/49073** (2015.01 - EP US); **Y10T 29/49121** (2015.01 - EP US); **Y10T 29/49126** (2015.01 - EP US); **Y10T 29/49128** (2015.01 - EP US); **Y10T 29/4913** (2015.01 - EP US); **Y10T 29/49135** (2015.01 - EP US); **Y10T 29/49151** (2015.01 - EP US); **Y10T 29/49155** (2015.01 - EP US); **Y10T 29/49156** (2015.01 - EP US); **Y10T 29/49222** (2015.01 - EP US)

## Citation (examination)

- US 6114932 A 20000905 - WESTER HENRIK [SE], et al
- JP H0696956 A 19940408 - MITSUBISHI ELECTRIC CORP

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WO2007123564A1; US7864015B2

## Designated contracting state (EPC)

DE FR GB

## DOCDB simple family (publication)

**US 2005012586 A1 20050120**; **US 7307502 B2 20071211**; CN 1637969 A 20050713; CN 1637969 B 20110824; EP 1548763 A1 20050629; EP 1548763 B1 20170816; EP 1548764 A1 20050629; EP 1548764 B1 20160824; JP 2005183928 A 20050707; JP 2005328074 A 20051124; JP 4732811 B2 20110727; TW 200521444 A 20050701; TW 200522094 A 20050701; TW I333220 B 20101111; TW I401710 B 20130711; US 2006158297 A1 20060720; US 2006158298 A1 20060720; US 2006158299 A1 20060720; US 2007163110 A1 20070719; US 2007171019 A1 20070726; US 7218197 B2 20070515; US 7868725 B2 20110111; US 7882614 B2 20110208; US 7987580 B2 20110802; US 8028401 B2 20111004

## DOCDB simple family (application)

**US 87590304 A 20040624**; CN 200410074166 A 20040901; EP 04020568 A 20040830; EP 04020571 A 20040830; JP 2004254991 A 20040901; JP 2005183998 A 20050623; TW 93127467 A 20040910; TW 93127468 A 20040910; US 36717606 A 20060303; US 36751606 A 20060303; US 36753606 A 20060303; US 72806407 A 20070323; US 72811207 A 20070323